REMARKS

Claims 1-17 are pending in the application. In this response, no claims have been amended, cancelled, or added.

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the following remarks.

Rejection under 35 U.S.C. § 112

Claims 1 and 6 have been rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. In particular, it is the Examiner's position that the addition of the claim limitation "wherein at least one of the foregoing steps is carried out on a programmable device" to claims 1 and 6 via claim amendments allegedly introduces new matter. The rejection is respectfully traversed.

Applicants respectfully disagree with the Examiner's position and submit that not only does the specification disclose that the audio stream is stored in an information storage medium (see page 21, lines 10-11 of the present specification) but it would be clear to one of ordinary skill in the art that at least one of the steps carried out in claims 1 and 6 can be carried out on a programmable device. In this regard, the Examiner's attention is directed to M.P.E.P. § 2106 wherein it is provided that USPTO personnel must always remember to use the perspective of one of ordinary skill in the art and that claims and disclosures are not to be evaluated in a vacuum. M.P.E.P. § 2106 further provides that if elements of an invention are well known in the art, the applicant does not have to provide a disclosure that describes those elements.

Rejection under 35 U.S.C. § 101

Claims 1 and 6 have been rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. The rejection is respectfully traversed.

Specifically, the Official Action suggests that claims 1 and 6 refer to methods and apparatuses for encoding and decoding audio data "therefore executing a mathematical algorithm." However, it is respectfully submitted that the claims do not merely execute a mathematical algorithm nor do they merely claim " 'acts' of claim process [that] manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing," and therefore are appropriate subject matter. The claims were amended in the response dated November 7, 2007 to reflect the current state of the law as reflected in two recent cases from the CAFC - In re Nuijten and In re Comiskey (copies of the decisions were attached with the response filed on November 7, 2007).

In light of these recent decisions, claims 1 and 6 were amended such that the method claims now recite that at least one of the steps is carried out in a programmable device. This clearly places claims 1 and 6 within the boundaries of statutory subject matter in view of the precedents identified herein.

In accordance with at least the foregoing, Applicants respectfully submit that claims 1 and 6 are not solely mathematical operations. As such, Applicants respectfully submit that the rejection under 35 U.S.C. § 101 should be withdrawn.

Rejection under 35 U.S.C. § 102

Claims 1-4 and 6-16 have been rejected under 35 U.S.C. § 102(b) as allegedly unpatentable over U.S. Patent No. 6,438,525 (hereinafter "Park"). The rejection is respectfully traversed.

Initially, it should be noted that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Park relates to solving a problem wherein an optimal state suitable for a fixed bit rate is searched for then quantized then encoded. (Col. 2, lines 9-28). Hence, if the transmission bandwidth is lowered due to poor network conditions in transmitting bitstreams through the network or the like, interruptions may occur and appropriate services cannot be rendered to a user. (Col. 2, lines 9-23). Park is directed to solving the problem when the bitstream desired to be transformed into bitstreams of small size more suitable for mobile apparatuses. (Col. 3, lines 11-17). For example, a re-encoding process is performed in order to reduce the size of the bitstream and the amount of computation that is required increases. (Col. 3, lines 18-35).

Applicants respectfully submit that in light of the problems identified by Park, the bitstream's scalable encoding/decoding method and apparatus using the bit-slice arithmetic coding (BSAC) was developed by the assignee of the present disclosure. In this regard, it should be noted that Park (assigned to the same assignee as the present disclosure) claims priority to KR 97-61298 (filed November 19, 1997), which is discussed in detail in the present specification at page 2, lines 14-29.

According to the BSAC technique, a bitstream coded with a high bit rate can be made into a bitstream with a low bit rate, and restoration is possible with only part

of the bitstream. Accordingly, when the network is overloaded, or the performance of the decoder is poor, or a user requests a low bid rate, services with some degree of audio quality can be provided to the user by using only part of the bitstream. However, the quality will inevitably decrease in proportion to the decrease and bit rate. As the BSAC technique adopts arithmetic coding, complexity is high and when the BSAC technique is implemented in an actual apparatus, the cost increases. In addition, since the BSAC technique uses a modified discrete cosine transform (MDCT) for transformation of an audio signal, audio quality in a lower layer may severely deteriorate. (Page 2, lines 14-29 of the present specification).

Applicants respectfully submit that the differences between the coding method recited in the present claims and the BSAC technique of Park include the following. First, in the BSAC technique, coding is performed in units of bits, while the coding of the presently claimed invention is performed in units of symbols. This difference is reflected in the independent claims. Secondly, in the BSAC technique, arithmetic coding is used, while Huffman coding is used. Arithmetic coding provides a higher compression gain, but increases complexity and cost. Accordingly, in the present invention, data is coded not in units of bits but in units of symbols through Huffman coding such that the complexity and cost actually decreases. (Page 17, lines 6-15 of the present specification).

In contrast to Park's BSAC method, independent claim 1 recites, *inter alia*, **Huffman-coding the obtained plurality of quantized samples in units of symbols in order from a symbol formed with a most significant bits (MSP) down to a symbol formed of the least significant bits (LSB) by referring to the coding model information**.

In this regard, Applicants respectfully submit that Park does not disclose or suggest symbols. (Col. 4, lines 37-50 and 64-65). In contrast, Park recites that the digits in the decoding step are "bits". (Col. 4, line 49). Hence, the combination of coding and decoding symbols rather than bits is not shown and, while Huffman decoding is mentioned in passing, it is not mentioned with reference to symbols, as explained above.

The Examiner's position regarding the argument above pertaining to symbols and bits is that "symbols are bits". (Official Action, Page 2). Applicants disagree with the Examiner's position and respectfully submit that the coding of the plurality of quantized samples comprises mapping a plurality of quantized samples on a bit plane, and coding the samples in units of symbols within a bit range allowed in a layer corresponding to the samples in order from a symbol formed with MSB bits down to a symbol formed with LSB bits. Moreover, in the mapping of the plurality of quantized samples, K quantized samples are mapped on a bit plane, and in the coding of the samples, a scalar value corresponding to the symbol formed with K-bit binary data is obtained, and Huffman coding is performed by referring to the K-bit binary data, the obtained scalar value, and a scalar value corresponding to a symbol higher than a current symbol on the bit plane, where K is an integer. (Page 3, lines 29-32 and Page 4, lines 1-6 of the present specification).

In accordance with at least the foregoing, Applicants respectfully submit that Park's disclosure of bits in relation to the BSAC technique does not encompass the present recitation of **Huffman-coding the obtained plurality of quantized samples in units of symbols in order from a symbol formed with most significant bits (MSB) down to a symbol formed with least significant bits (LSB) by referring to the coding model information**.

As such, Applicants respectfully submit that the anticipation rejection over Park should be withdrawn.

Rejection under 35 U.S.C. § 103

Claims 5 and 17 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Park in view of U.S. Patent Publication No. 2002/0131084 (hereinafter "Andrew"). The rejection is respectfully traversed.

The Office has the initial burden of establishing a **factual basis** to support the legal conclusion of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in KSR Int'l v. Teleflex Inc., 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some **articulated reasoning with some rational underpinning** to support the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (emphasis added).

The discussion hereinabove regarding Park and the pending claims is herein incorporated in its entirety.

Andrew has been cited merely as allegedly disclosing the features recited in dependent claims 5 and 17. However, as cited, Andrew fails to cure the many above-noted deficiencies of Park. Accordingly, Park and Andrew, either alone or in combination, fail to disclose or suggest all the features of claims 5 and 17. As such, Applicants respectfully submit that the obviousness rejection over Park and Andrew

should be withdrawn for at least the reasons discussed hereinabove.

Conclusion

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

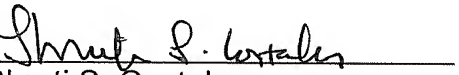
In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: May 6, 2008

By: 
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